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 NEWS  1  Feb  2  Web Page URLs for STN Seminar Schedule - N. America
 NEWS  2  Jul  8  Important Derwent Announcement about CPI Changes to
                  CPI Subscriber Indexing in 1999 - REVISED
 NEWS  3  Jul 18  MEDLINE Now Searchable from 1960 to Date
 NEWS  4  Jul 21  INSPEC Accession Number Display Changes
 NEWS  5  Aug  2  PATOS Files Change Accession Number Display Format
 NEWS  6  Aug  2  New INPADOC File Now Available on STN
 NEWS  7  Aug  2  PATDPA: New and Changed Update Fields
 NEWS  8  Aug  3  ANABSTR and CSNB
 NEWS  9  Aug  3  New Derwent Subscriber File with Extension Abstracts
                  (WPIX) Now Available
 NEWS 10  Aug  3  Derwent New Content Fields Released in WPINDEX, WPIDS,
                  and WPIX
 NEWS 11  Aug  3  Derwent Chemistry Resource (DCR) Released in WPIDS
                  and WPIX
 NEWS 12  Aug  9  Expanded CAplus Coverage of US, Japanese and WIPO
                  Patents

 NEWS EXPRESS  STN Express 5.0 Now Available
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 NEWS INTER    General Internet Information
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 NEWS PHONE    Direct Dial and Telecommunication Network Access to STN
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* * * * * * * * * * * * * * * * STN  Columbus  * * * * * * * * * * * * * * * *

FILE 'HOME' ENTERED AT 15:12:08 ON 12 AUG 1999

=> file caplus

COST IN U.S. DOLLARS                                  SINCE FILE      TOTAL
                                                         ENTRY    SESSION
FULL ESTIMATED COST                                       0.15       0.15

FILE 'CAPLUS' ENTERED AT 15:12:17 ON 12 AUG 1999
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FILE COVERS 1967 - 12 Aug 1999 VOL 131 ISS 7
FILE LAST UPDATED: 12 Aug 1999 (19990812/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

This file supports REG1stRY for direct browsing and searching of all substance data from the REGISTRY file. Enter HELP FIRST for more information.

```
=> s SepPak

L1          108 SEPPAK

=> s nucleic(W)acid#

        81307 NUCLEIC
      2684248 ACID#
L2      80672 NUCLEIC(W)ACID#

=> s L1 and L2

L3            0 L1 AND L2

=> e seppak

E1            3     SEPPACK/BI
E2            1     SEPPAELAE/BI
E3          108 --> SEPPAK/BI
E4            2     SEPPAKC18/BI
E5            2     SEPPAKS/BI
E6            3     SEPPALA/BI
E7            1     SEPPALAINEN/BI
E8            1     SEPPEAK/BI
E9            1     SEPPELER/BI
E10           2     SEPPELT/BI
E11           2     SEPPEN/BI
E12           1     SEPPENTINE/BI

=> s E3,E4,E5

            108 SEPPAK/BI
              2 SEPPAKC18/BI
              2 SEPPAKS/BI
L4          110 (SEPPAK/BI OR SEPPAKC18/BI OR SEPPAKS/BI)

=> s L2 and L4

L5            0 L2 AND L4

=> D L4 kwic


L4   ANSWER 1 OF 110  CAPLUS  COPYRIGHT 1999 ACS
AB   . . . h. Prorenin, renin and angiotensinogen were measured by
     enzyme-kinetic assay; Ang I and Ang II were measured by RIA after
     SepPak extn. and HPLC sepn. Results: Prorenin, but none of the
     other RAS components, could be detected in the medium of. . .

=> d
```

L4 2 kwic

L4 ANSWER 2 OF 110 CAPLUS COPYRIGHT 1999 ACS
AB . . . antibacterial activity in human lung. We attempted to purify these mols. from bronchoalveolar lavage fluid (BALF). Extn. of BALF on **SepPak** C-18 cartridges, followed by continuous acid-urea polyacrylamide gel electrophoresis and reverse-phase high-performance liq. chromatog. yielded one fraction with antibacterial activity. . .

=> s oligonucleotide# and L4

40506 OLIGONUCLEOTIDE#
L6 0 OLIGONUCLEOTIDE# AND L4

=> log y

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	13.98	14.13

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-1.07	-1.07

STN INTERNATIONAL LOGOFF AT 15:16:00 ON 12 AUG 1999

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Trying 01082...Open

PLEASE ENTER HOST PORT ID:
PLEASE ENTER HOST PORT ID:x
LOGINID:d183glk
PASSWORD:
TERMINAL (ENTER 1, 2, 3, 4, OR ?): 3

  * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
  *                                                                   *
  *           Welcome to MESSENGER (APS Text) at USPTO                *
  *                                                                   *
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  *    The USPTO production files are current through:                *
  *    AUGUST 10,1999  for U.S. Patent Text Data.                      *
  *    AUGUST 10,1999  for U.S. Current Classification Data.           *
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  *                                                                   *
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  * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
  *       * PLEASE USE 305-9000 FOR NEW TELEPHONE NUMBER *           *
  *                                                                   *
  * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
  * More U.S. patent data is now available on APS.  The new          *
  * USOCR file contains patents issued in 1970, plus some            *
  * patents that were missing from the USPAT file.  See the          *
  * Patents News Folder under the Public Folders in e-mail for       *
  * more information on using the new file.  Thank you.              *
  * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
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  * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
  *                Help Desk --> 703-305-9000                         *
  *                                                                   *
  *    The Help Desk is staffed for APS support 7 days/week.          *
  *      Monday through Friday:      6:30am - 9:00pm                  *
  *      Saturday, Sunday, Holidays: 8:30am - 5:00 pm                 *
  *                                                                   *
  *    The Help Desk staff at this number will handle all APS         *
  *    related questions.                                             *
  * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
  *    >>>>>>>>>>>>> NEW SUNDAY HOURS !!! <<<<<<<<<<<<<               *
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  *    The APS is available:                                          *
  *            6:30am - 9:00pm Monday through Friday                  *
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  *                                                                   *
  *      APS is unavailable Thanksgiving Day, Christmas Day,          *
  *      and New Year's Day.                                          *
  *                                                                   *
  * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
FILE 'USPAT' ENTERED AT 15:19:49 ON 12 AUG 1999

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  *        U. S.   P A T E N T   T E X T   F I L E          *
  *                                                         *
  *  THE WEEKLY PATENT TEXT AND IMAGE DATA IS CURRENT       *
  *  THROUGH AUGUST 10,1999                          *
  *                                                         *
  *                                                         *
  * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *

=> s seppak

L1          95 SEPPAK

=> s oligonucleotide# and L1

         14730 OLIGONUCLEOTIDE#
L2          38 OLIGONUCLEOTIDE# AND L1

=> s oligonucleotide#(P)L1

         14730 OLIGONUCLEOTIDE#
L3          15 OLIGONUCLEOTIDE#(P)L1

=> d L3 1-15 kwic
```

US PAT NO: 5,929,226 [IMAGE AVAILABLE] L3: 1 of 15

DETDESC:

DETD(58)

Oligonucleotide 5 was synthesized using the method described in U.S. Pat. No. 5,149,798, (Ser. No. 07/334,679; allowed on Mar. 19, 1992) followed by iodine oxidation deprotection in concentrated ammonia and standard reversed phase purification. **Oligonucleotide** 6 was synthesized as follows: (a) nucleoside methylphosphonamidites were used in the first two couplings; (b) the coupled nucleotide methylphosphonites. . . . with Beaucage reagent, as described in Example 1; (c) remaining couplings were carried out using H-phosphonate chemistry, as described for **oligonucleotide** 5, above; (d) resulting **oligonucleotide** was oxidized with iodine; (e) oxidized **oligonucleotide** was deprotected at room temperature for 30 minutes in 0.5 ml 45:45:10 acetonitrile: aqueous ethanol: ammonium hydroxide, then by adding. . . . and evaporated in vacuo to obtain a solid mass; and (g) the mass was dissolved in water and desalted on **SepPak** C.sub.18. **Oligonucleotides** 7 and 8 were synthesized in identical fashion, except that the method of Example 1 was used for the first 3 and 4 couplings, respectively. Purity of the **oligonucleotides** was confirmed using PAGE (data not shown).

US PAT NO: 5,919,630 [IMAGE AVAILABLE] L3: 2 of 15

DETDESC:

DETD(26)

The . . . (Foster City, Calif.). ROX-NHS (6-carboxy rhodamine X succinimidyl ester) and TAMRA-SE (5-carboxy tetramethylrhodamine succinimidyl ester) were obtained from ABI/Perkin Elmer. **Oligonucleotides** were synthesized on a 1 .mu.mole scale using an ABI 380B automated DNA synthesizer with standard reagents supplied by the. .

. addition of the phosphoramidite reagent 6-FAM Amidite (ABI) at the final step of the synthesis. For other 5' dye labeled **oligonucleotides**, 5' aminohexyl phosphoramidite (ABI AMINOLINK 2) was substituted at the final step to provide a reactive amino group for subsequent conjugation. For conjugating dyes to internal positions of the **oligonucleotide**, a modified dT phosphoramidite reagent, amino-modifier C6 dT (Glen Research, Sterling, Va.) was substituted in the appropriate sequence position in place of unmodified dT. The crude **oligonucleotides** were deprotected by treatment with ammonium hydroxide for 4 to 8 hours at 55.degree. C., which also deprotected the modified dT. These were filtered and solvent was evaporated from the filtrate with a rotary vacuum apparatus. **Oligonucleotides** were purified directly following this step by reverse phase HPLC. Sequences with only the modified internal dT aminolinker were prepared. . . 5' terminal dimethoxytrityl (DMT) intact and purified by RP HPLC. The resulting 5'-DMT full length product was deprotected using a **SepPak** column (Waters) with 2% trifluoroacetic acid and dried prior to coupling with reactive dyes.

US PAT NO: 5,846,726 [IMAGE AVAILABLE] L3: 3 of 15

DETDESC:

DETD(23)

The . . . Perkin Elmer (Foster City, Calif.). ROX-NHS (6-carboxy rhodamine.times.succinimidyl ester) and TAMRA-SE (5-carboxy tetramethylrhodamine succinimidyl ester) were obtained from ABI/Perkin Elmer. **Oligonucleotides** were synthesized on a 1 .mu.mole scale using an ABI 380B automated DNA synthesizer with standard reagents supplied by the. . . addition of the phosphoramidite reagent 6-FAM Amidite (ABI) at the final step of the synthesis. For other 5' dye labeled **oligonucleotides**, 5' aminohexyl phosphoramidite (ABI AMINOLINK 2) was substituted at the final step to provide a reactive amino group for subsequent conjugation. For conjugating dyes to internal positions of the **oligonucleotide**, a modified dT phosphoramidite reagent, amino-modifier C6 dT (Glen Research, Sterling, Va.) was substituted in the appropriate sequence position in place of unmodified dT. The crude **oligonucleotides** were deprotected by treatment with ammonium hydroxide for 4 to 8 hours at 55.degree. C., which also deprotected the modified dT. These were filtered and solvent was evaporated from the filtrate with a rotary vacuum apparatus. **Oligonucleotides** were purified directly following this step by reverse phase HPLC. Sequences with only the modified internal dT aminolinker were prepared. . . 5' terminal dimethoxytrityl (DMT) intact and purified by RP HPLC. The resulting 5'-DMT full length product was deprotected using a **SepPak** column (Waters) with 2% trifluoroacetic acid and dried prior to coupling with reactive dyes.

US PAT NO: 5,837,499 [IMAGE AVAILABLE] L3: 4 of 15

DETDESC:

DETD(45)

The gel remnants were removed by centrifugation and the **oligonucleotides** isolated by chromatography on **SepPak** C-18 columns (Waters Associates). The columns were pre-equilibrated by washing sequentially with 10 ml acetonitrile, 5 ml 30% acetonitrile in 50 mM TEAB and 10 ml 25 mM TEAB. The **oligonucleotides** were applied, washed with 10 ml 25 mM TEAB, and eluted from the columns with 5 ml 50% acetonitrile

in 35.5 mM TEAB. Fractions were collected and those containing the **oligonucleotides**, as determined by absorbance at 260 nm, were dried in a SpeedVac (Savant).

DETDESC:

DETD(54)

The . . . encoding for C5a(1-74, TLM), respectively. Then, the plasmids were used in cassette mutagenesis to make a series of new genes. **Oligonucleotides** used in cassette mutagenesis were made with an Applied Biosystems 381A DNA Synthesizer, using solid phase phosphoramidite chemistry according to. . . dissolved in 45 .mu.l TE buffer (10 mM Tris.HCl at pH 7.4 containing 1 mM EDTA) yielding pWCB112/A. single stranded **oligonucleotides** a 35 bp- sequence, 5'CTGCGTGCTAACATCTCTCACAAAGACATGTGCTA3' (SEQ. ID. NO. 7), and a 39 bp-sequence, 5 'AGCTTAGCACATGTCTTTGTGAGAGATGTTAGCACGCAG3 ' (SEQ. ID. NO. 8), were purified by preparative electrophoresis on a 8% polyacrylamide gel. Following electrophoresis, the **oligonucleotides** were visualized by UV shadowing and the appropriate fragment excised from the gel. The gel slice was pulverized in a. . . TEAB buffer at pH 7.5 for 16 h at 37.degree. C. The gel remnants were removed by centrifugation and the **oligonucleotides** isolated by chromatography on **SepPak** C-18 columns (Waters Associates). The columns were pre-equilibrated by washing sequentially with 10 ml acetonitrile, 5 ml 30% acetonitrile in 50 mM TEAB and 10 ml 25 mM TEAB. The **oligonucleotides** were applied, washed with 10 ml 25 mhM TEAB, and eluted from the columns with 5 ml 50% acetonitrile in. . .

US PAT NO: 5,807,824 [IMAGE AVAILABLE] L3: 5 of 15

DETDESC:

DETD(44)

The gel remnants were removed by centrifugation and the **oligonucleotides** isolated by chromatography on **SepPak** C-18 columns (Waters Associates). The columns were pre-equilibrated by washing sequentially with 10 ml acetonitrile, 5 ml 30% acetonitrile in 50 mM TEAB and 10 ml 25 mM TEAB. The **oligonucleotides** were applied, washed with 10 ml 25 mM TEAB, and eluted from the columns with 5 ml 50% acetonitrile in 35.5 mM TEAB. Fractions were collected and those containing the **oligonucleotides**, as determined by absorbance at 260 nm, were dried in a SpeedVac (Savant).

DETDESC:

DETD(54)

Single stranded **oligonucleotides** a 35bp-sequence, 5'CTGCGTGCTAACATCTCTCACAAAGACATGTGCTA3' (SEQ. ID. NO. 7), and a 39 bp-sequence, 5'AGCTTAGCACATGTCTTTGTGAGAGATGTTAGCACGCAG3' (SEQ. ID. NO. 8), were purified by preparative electrophoresis on a 8% polyacrylamide gel. Following electrophoresis, the **oligonucleotides** were visualized by UV shadowing and the appropriate fragment excised from the gel. The gel slice was pulverized in a. . . TEAB buffer at pH 7.5 for 16 h at 37.degree. C. The gel remnants were removed by centrifugation and the **oligonucleotides** isolated by chromatography on **SepPak** C-18 columns (Waters Associates). The columns were pre-equilibrated by washing sequentially with 10 ml acetonitrile, 5 ml 30% acetonitrile in 50 mM TEAB and 10 ml 25 mM TEAB. The **oligonucleotides** were applied, washed with

10 ml 25 mM TEAB, and eluted from the columns with 5 ml 50% acetonitrile in. . .

US PAT NO: 5,661,134 [IMAGE AVAILABLE] L3: 6 of 15

DETDESC:

DETD(11)

A large scale enzymatic synthesis of sequence specific all Rp phosphorothioate **oligonucleotide** was effected utilizing a 55-mer natural phosphodiester template and a 41-mer natural phosphodiester primer. The template sequence was GTACTTGCATAGTCGATCGGAAAATAGGGTTCTCATCTC CCGGGATTTGGTTGAG (SEQ. . . 5 minutes and snap cooled, i.e. very quickly cooled with ice. The template and primer were removed from the synthesized **oligonucleotide** by the addition of 4.6 .mu.M DNase I and incubation at 37.degree. C. for 10 minutes. The reaction mixture was. . . ethanol as above. The precipitate was resuspended in H.sub.2 O and purified using 20% polyacrylamide/7M urea gel electrophoresis coupled with **SepPak**.TM. chromatography (Millipore, Milford, Mass.).

DETDESC:

DETD(12)

In an alternate synthesis, Pst 1 restriction nuclease (Life Technologies, Inc., Gaithersburg, Md.) was used to cleave the primer-bound phosphorothioate **oligonucleotide** at the restriction site. The desired CGACTATGCAAGTAC (SEQ ID NO:13) phosphorothioate **oligonucleotide** was purified using polyacrylamide/7M urea gel electrophoresis coupled with **SepPak**.TM. chromatography (Millipore, Milford, Mass.). Yields were optimized using enzymatic cascade effected by repetitive template-primer addition throughout the reaction. The cascade augmented synthesis yielded 75 A.sub.260 units of the CGACTATGCAAGTAC (SEQ ID NO:13) all Rp configuration phosphorothioate **oligonucleotide** from a 20 mL reaction.

US PAT NO: 5,654,284 [IMAGE AVAILABLE] L3: 7 of 15

DETDESC:

DETD(11)

A large scale enzymatic synthesis of sequence specific all Rpphosphorothioate **oligonucleotide** was effected utilizing a 55-mer natural phosphodiester template and a 41-mer natural phosphodiester primer. The template sequence was GTACTTGCATAGTCGATCGGAAAATAGGGTTCTCATCTC CCGGGATTTGGTTGAG (SEQ. . . 5 minutes and snap cooled, i.e. very quickly cooled with ice. The template and primer were removed from the synthesized **oligonucleotide** by the addition of 4.6 .mu.M DNase I and incubation at 37.degree. C. for 10 minutes. The reaction mixture was. . . ethanol as above. The precipate was resuspended in H.sub.2 O and purfied using 20% polyacrylamide/7M urea gel electrophoresis coupled with **SepPak**.TM. chromatography (Millipore, Milford, Mass.).

DETDESC:

DETD(12)

In an alternate synthesis, Pst 1 restriction nuclease (Life Technologies, Inc., Gaithersburg, Md.) was used to cleave the

primer-bound phosphorothioate **oligonucleotide** at the restriction site. The desired CGACTATGCAAGTAC (SEQ ID NO:13) phosphorothioate **oligonucleotide** was purified using polyacrylamide/7M urea gel electrophoresis coupled with **SepPak**.TM. chromatography (Millipore, Milford, Mass.). Yields were optimized using enzymatic cascade effected by repetitive template-primer addition throughout the reaction. The cascade augmented synthesis yielded 75 A.sub.260 units of the CGACTATGCAAGTAC (SEQ ID NO:13) all Rp configuration phosphorothioate **oligonucleotide** from a 20 mL reaction.

US PAT NO: 5,635,488 [IMAGE AVAILABLE] L3: 8 of 15

DETDESC:

DETD(11)

A large scale enzymatic synthesis of sequence specific all Rp phosphorothioate **oligonucleotide** was effected utilizing a 55-met natural phosphodiester template and a 41-mer natural phosphodiester primer. The template sequence was GTACTTGCATAGTCGATCGGAAAATAGGGTTCTCATCTC CCGGGATTTGGTTGAG (SEQ. . . 5 minutes and snap cooled, i.e. very quickly cooled with ice. The template and primer were removed from the synthesized **oligonucleotide** by the addition of 4.6 .mu.M DNase I and incubation at 37.degree. C. for 10 minutes. The reaction mixture was. . . ethanol as above. The precipitate was resuspended in H.sub.2 O and purified using 20% polyacrylamide/7M urea gel electrophoresis coupled with **SepPak**.TM. chromatography (Millipore, Milford, Mass.).

DETDESC:

DETD(12)

In an alternate synthesis, Pst 1 restriction nuclease (Life Technologies, Inc., Gaithersburg, Md.) was used to cleave the primer-bound phosphorothioate **oligonucleotide** at the restriction site. The desired CGACTATGCAAGTAC (SEQ ID NO:2) phosphorothioate **oligonucleotide** was purified using polyacrylamide/7M urea gel electrophoresis coupled with **SepPak**.TM. chromatography (Millipore, Milford, Mass.). Yields were optimized using enzymatic cascade effected by repetitive template-primer addition throughout the reaction. The cascade augmented synthesis yielded 75 A.sub.260 units of the CGACTATGCAAGTAC (SEQ ID NO:2) all Rp configuration phosphorothioate **oligonucleotide** from a 20 mL reaction.

US PAT NO: 5,620,963 [IMAGE AVAILABLE] L3: 9 of 15

DETDESC:

DETD(11)

A large scale enzymatic synthesis of sequence specific all Rp phosphorothioate **oligonucleotide** was effected utilizing a 55-mer natural phosphodiester template and a 41-mer natural phosphodiester primer. The template sequence was GTACTTGCATAGTCGATCGGAAAATAGGGTTCTCATCTC CCGGGATTTGGTTGAG (SEQ. . . 5 minutes and snap cooled, i.e. very quickly cooled with ice. The template and primer were removed from the synthesized **oligonucleotide** by the addition of 4.6 .mu.M DNase I and incubation at 37.degree. C. for 10 minutes. The reaction mixture was. . . ethanol as above. The precipate was resuspended in H.sub.2 O and purfied using 20% polyacrylamide/7M urea gel electrophoresis coupled with **SepPak**.TM. chromatography (Millipore, Milford, Mass.).

DETDESC:

DETD(12)

In an alternate synthesis, Pst 1 restriction nuclease (Life Technologies, Inc., Gaithersburg, Md) was used to cleave the primer-bound phosphorothioate **oligonucleotide** at the restriction site. The desired CGACTATGCAAGTAC (SEQ ID NO: 13) phosphorothioate **oligonucleotide** was purified using polyacrylamide/7M urea gel electrophoresis coupled with **SepPak**.TM. chromatography (Millipore, Milford, Mass.). Yields were optimized using enzymatic cascade effected by repetitive template-primer addition throughout the reaction. The cascade augmented synthesis yielded 75 A.sub.260 units of the CGACTATGCAAGTAC (SEQ ID NO: 13) all Rp configuration phosphorothioate **oligonucleotide** from a 20 mL reaction.

US PAT NO: 5,607,923 [IMAGE AVAILABLE] L3: 10 of 15

DETDESC:

DETD(11)

A large scale enzymatic synthesis of sequence specific all Rp phosphorothioate **oligonucleotide** was effected utilizing a 55-mer natural phosphodiester template and a 41-mer natural phosphodiester primer. The template sequence was GTACTTGCATAGTCGATCGGAAAATAGGGTTCTCATCTC CCGGGATTTGGTTGAG (SEQ. . . 5 minutes and snap cooled, i.e. very quickly cooled with ice. The template and primer were removed from the synthesized **oligonucleotide** by the addition of 4.6 .mu.M DNase I and incubation at 37.degree. C. for 10 minutes. The reaction mixture was. . . ethanol as above. The precipate was resuspended in H.sub.2 O and purfied using 20% polyacrylamide/7M urea gel electrophoresis coupled with **SepPak**.TM. chromatography (Millipore, Milford, Mass.).

DETDESC:

DETD(12)

In an alternate synthesis, Pst 1 restriction nuclease (Life Technologies, Inc., Gaithersburg, Md.) was used to cleave the primer-bound phosphorothioate **oligonucleotide** at the restriction site. The desired CGACTATGCAAGTAC (SEQ ID NO:13) phosphorothioate **oligonucleotide** was purified using polyacrylamide/7M urea gel electrophoresis coupled with **SepPak**.TM. chromatography (Millipore, Milford, Mass.). Yields were optimized using enzymatic cascade effected by repetitive template-primer addition throughout the reaction. The cascade augmented synthesis yielded 75 A.sub.260 units of the CGACTATGCAAGTAC (SEQ ID NO:13) all Rp configuration phosphorothioate **oligonucleotide** from a 20 mL reaction.

US PAT NO: 5,599,797 [IMAGE AVAILABLE] L3: 11 of 15

DETDESC:

DETD(54)

A large scale enzymatic synthesis of sequence specific all Rp phosphorothioate **oligonucleotide** was effected utilizing a 55-mer natural phosphodiester template and a 41-mer natural phosphodiester primer. The template sequence was GTACTTGCATAGTCGATCGGAAAATAGGGTTCTCATCTC CCGGGATTTGGTTGAG (SEQ. . . 5 minutes and snap cooled, i.e. very

quickly cooled with ice. The template and primer were removed from the synthesized **oligonucleotide** by the addition of 4.6 .mu.M DNase I and incubation at 37.degree. C. for 10 minutes. The reaction mixture was. . . ethanol as above. The precipate was resuspended in H.sub.2 O and purified using 20% polyacrylamide/7M urea gel electrophoresis coupled with **SepPak**.TM. chromatography (Millipore, Milford, Mass.).

DETDESC:

DETD(55)

In an alternate synthesis, Pst 1 restriction nuclease (Life Technologies, Inc., Gaithersburg, Md.) was used to cleave the primer-bound phosphorothioate **oligonucleotide** at the restriction site. The desired CGACTATGCAAGTAC (SEQ ID NO:13) phosphorothioate **oligonucleotide** was purified using polyacrylamide/7M urea gel electrophoresis coupled with **SepPak**.TM. chromatography (Millipore, Milford, Mass.). Yields were optimized using enzymatic cascade effected by repetitive template-primer addition throughout the reaction. The cascade augmented synthesis yielded 75 A.sub.260 units of the CGACTATGCAAGTAC (SEQ ID NO:13) all Rp configuration phosphorothioate **oligonucleotide** from a 20 mL reaction.

US PAT NO: 5,587,361 [IMAGE AVAILABLE] L3: 12 of 15

DETDESC:

DETD(11)

A large scale enzymatic synthesis of sequence specific all Rp phosphorothioate **oligonucleotide** was effected utilizing a 55-mer natural phosphodiester template and a 41-mer natural phosphodiester primer. The template sequence was GTACTTGCATAGTCGATCGGAAAATAGGGTTCTCATCTC CCGGGATTTGGTTGAG (SEQ. . . 5 minutes and snap cooled, i.e. very quickly cooled with ice. The template and primer were removed from the synthesized **oligonucleotide** by the addition of 4.6 .mu.M DNase I and incubation at 37.degree. C. for 10 minutes. The reaction mixture was. . . ethanol as above. The precipate was resuspended in H.sub.2 O and purfied using 20% polyacrylamide/7M urea gel electrophoresis coupled with **SepPak**.TM. chromatography (Millipore, Milford, Mass.).

DETDESC:

DETD(12)

In an alternate synthesis, Pst 1 restriction nuclease (Life Technologies, Inc., Gaithersburg, Md.) was used to cleave the primer-bound phosphorothioate **oligonucleotide** at the restriction site. The desired CGACTATGCAAGTAC (SEQ ID NO:13) phosphorothioate **oligonucleotide** was purified using polyacrylamide/7M urea gel electrophoresis coupled with **SepPak**.TM. chromatography (Millipore, Milford, Mass.). Yields were optimized using enzymatic cascade effected by repetitive template-primer addition throughout the reaction. The cascade augmented synthesis yielded 75 A.sub.260 units of the CGACTATGCAAGTAC (SEQ ID NO:13) all Rp configuration phosphorothioate **oligonucleotide** from a 20 mL reaction.

US PAT NO: 5,576,302 [IMAGE AVAILABLE] L3: 13 of 15

DETDESC:

DETD(54)

A large scale enzymatic synthesis of sequence specific all Rp phosphorothioate **oligonucleotide** was effected utilizing a 55-met natural phosphodiester template and a 41-mer natural phosphodiester primer. The template sequence was GTACTTGCATAGTCGATCGGAAAATAGGGTTCTCATCTC CCGGGATTTGGTTGAG (SEQ. . . 5 minutes and snap cooled, i.e. very quickly cooled with ice. The template and primer were removed from the synthesized **oligonucleotide** by the addition of 4.6 .mu.M DNase I and incubation at 37.degree. C. for 10 minutes. The reaction mixture was. . . as above. The precipate was resuspended in H.sub.2 O and purfied using 20% polyacrylamide/7 M urea gel electrophoresis coupled with **SepPak**.TM. chromatography (Millipore, Milford, Mass.).

DETDESC:

DETD(55)

In an alternate synthesis, Pst 1 restriction nuclease (Life Technologies, Inc., Gaithersburg, Md.) was used to cleave the primer-bound phosphorothioate **oligonucleotide** at the restriction site. The desired CGACTATGCAAGTAC (SEQ ID NO:13) phosphorothioate **oligonucleotide** was purified using polyacrylamide/7 M urea gel electrophoresis coupled with **SepPak**.TM. chromatography (Millipore, Milford, Mass.). Yields were optimized using enzymatic cascade effected by repetitive template-primer addition throughout the reaction. The cascade augmented synthesis yielded 75 A.sub.260 units of the CGACTATGCAAGTAC (SEQ ID NO: 13) all Rp configuration phosphorothioate **oligonucleotide** from a 20 mL reaction.

US PAT NO: 5,506,212 [IMAGE AVAILABLE] L3: 14 of 15

DETDESC:

DETD(11)

A large scale enzymatic synthesis of sequence specific all-Rp phosphorothioate **oligonucleotide** was effected utilizing a 55 mer natural phosphodiester template and a 41 mer natural phosphodiester primer. The template sequence was:. . . 5 minutes and snap cooled, i.e. very quickly cooled with ice. The template and primer were removed from the synthesized **oligonucleotide** by the addition of 4.6 .mu.M DNase I and incubation at 37.degree. C. for 10 minutes. The reaction mixture was. . . ethanol as above. The precipate was resuspended in H.sub.2 O and purfied using 20% polyacrylamide/7M urea gel electrophoresis coupled with **SepPak**.TM. chromatography (Millipore, Milford, Mass.).

DETDESC:

DETD(12)

In an alternate synthesis, Pst 1 restriction nuclease (Life Technologies, Inc., Gaithersburg, Md.) was used to cleave the primer-bound phosphorothioate **oligonucleotide** at the restriction site. The desired CGA CTA TGC AAG TAC phosphorothioate **oligonucleotide** was purified using polyacrylamide/7M urea gel electrophoresis coupled with **SepPak**.TM. chromatography (Millipore, Milford, Mass.). Yields were optimized using enzymatic cascade effected by repetitive template-primer addition throughout the reaction. The cascade augmented synthesis yielded 75 A.sub.260 units of the CGA CTA TGC

AAG TAC all-Rp configuration phosphorothioate **oligonucleotide** from a 20 ml reaction.

US PAT NO: 5,275,946 [IMAGE AVAILABLE] L3: 15 of 15

SUMMARY:

BSUM(49)

The **oligonucleotides** are deprotected and purified by polyacrylamide gel electrophoresis using the conditions published by New York Theriault, et al., ibid. They are desalted on Waters **SepPak** C-18 cartridges. Their sizes and purities are confirmed by labeling with .gamma.-.sup.32p ATP and polynucleotide kinase and running them on. . .

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1. 5,929,226, Jul. 27, 1999, Antisense oligonucleotide alkylphosphonothioates and arylphospohonothioates; A. Padmapriya, et al., 536/25.3; 435/6; 536/23.1, 24.31, 24.5; 558/122, 132 [IMAGE AVAILABLE]

2. 5,919,630, Jul. 6, 1999, Detection of nucleic acids by fluorescence quenching; James G. Nadeau, et al., 435/6, 91.2; 536/23.1, 24.3, 25.3, 25.32 [IMAGE AVAILABLE]

3. 5,846,726, Dec. 8, 1998, Detection of nucleic acids by fluorescence quenching; James G. Nadeau, et al., 435/6, 91.2; 536/24.3, 25.3, 25.32 [IMAGE AVAILABLE]

4. 5,837,499, Nov. 17, 1998, DNA encoding C5A receptor antagonists having substantially no agonist activity and methods of expressing same; Jan van Oostrum, et al., 435/69.6, 69.7, 70.1, 71.1, 252.3, 252.33, 254.11, 320.1, 325; 530/408; 536/23.4, 23.5 [IMAGE AVAILABLE]

5. 5,807,824, Sep. 15, 1998, C5A receptor antagonists having substantially no agonist activity; Jan van Oostrum, et al., 514/12; 530/324 [IMAGE AVAILABLE]

6. 5,661,134, Aug. 26, 1997, Oligonucleotides for modulating Ha-ras or Ki-ras having phosphorothioate linkages of high chiral purity; Phillip Dan Cook, et al., 514/44, 42, 43, 45, 46; 536/24.5, 25.33, 25.34 [IMAGE AVAILABLE]

7. 5,654,284, Aug. 5, 1997, Oligonucleotides for modulating RAF kinase having phosphorothioate linkages of high chiral purity; Phillip Dan Cook, et al., 514/44; 536/22.1, 23.1, 23.7, 23.72, 24.32 [IMAGE AVAILABLE]

8. 5,635,488, Jun. 3, 1997, Compounds having phosphorodithioate linkages of high chiral purity; Phillip D. Cook, et al., 514/44, 42, 43; 536/25.33, 25.34 [IMAGE AVAILABLE]

9. 5,620,963, Apr. 15, 1997, Oligonucleotides for modulating protein kinase C having phosphorothioate linkages of high chiral purity; Phillip D. Cook, et al., 514/44; 536/24.5, 25.33, 25.34 [IMAGE AVAILABLE]

10. 5,607,923, Mar. 4, 1997, Oligonucleotides for modulating cytomegalovirus having phosphorothioate linkages of high chiral purity; Phillip D. Cook, et al., 514/44, 912, 914; 536/23.1, 25.34 [IMAGE AVAILABLE]

11. 5,599,797, Feb. 4, 1997, Oligonucleotides having phosphorothioate linkages of high chiral purity; Phillip D. Cook, et al., 514/44, 42, 43, 45, 46; 536/24.5, 25.33, 25.34 [IMAGE AVAILABLE]

12. 5,587,361, Dec. 24, 1996, Oligonucleotides having phosphorothioate linkages of high chiral purity; Phillip D. Cook, et al., 514/44; 536/22.1, 23.1, 23.7, 23.72, 24.32 [IMAGE AVAILABLE]

13. 5,576,302, Nov. 19, 1996, Oligonucleotides for modulating hepatitis C virus having phosphorothioate linkages of high chiral purity; Phillip D. Cook, et al., 514/44, 42, 43, 45, 46; 536/24.5, 25.33, 25.34 [IMAGE AVAILABLE]

14. 5,506,212, Apr. 9, 1996, Oligonucleotides with substantially chirally pure phosphorothioate linkages; Glenn Hoke, et al., 514/44, 42, 43, 45, 46; 536/24.5, 25.33, 25.34 [IMAGE AVAILABLE]

15. 5,275,946, Jan. 4, 1994, Thrombolytic agents with modified kringle domains; Nicole T. Hatzenbuhler, et al., 435/226; 424/94.64; 435/212, 219 [IMAGE AVAILABLE]

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